



Maintenance, Repair and Environmental (MR&E) for Missile Fuels

**Presented at DESC's Worldwide Energy Conference
September 29, 2004**

**Presented by Sharon L. Murphy
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Defense Energy Support Center**



Overview



- ☐ **Background on Controlled Storage Points (CSPs)**
- ☐ **MR&E Basics**
- ☐ **The JP8 Model**
- ☐ **Maybe Hypergols? The Possibilities**
- ☐ **The Way Ahead**



Missile Fuels Product Inventory Locations



- ❑ **Controlled Storage Points (CSP) - 20 CSPs worldwide store DLA-owned product**
 - ❖ **Only 5 are at DoD installations**
 - 4 of 5 handle multiple products
 - ❖ **Non-DoD CSPs**
 - 11 are at Federal Civilian locations
 - 4 are at Suppliers' facilities
 - ❖ **Usually store multiple products**
 - ❖ **Purpose of CSPs**
 - Typically sole benefit of the customer(s) on-site
 - More economic resupply quantities
 - On-site ready storage
 - Just in time delivery without customer outlay of funds until time of actual need
 - Maximize transportation economies of scale



CSP Agreements



- ☐ **Formal agreement delineating the responsibilities of DESC and the customer**
 - ❖ **Quality control**
 - ❖ **Tracking receipts and sales**
 - ❖ **Inventory control**
- ☐ **Established prior to building inventories of DLA-owned product**
- ☐ **Currently don't address MR&E**
- ☐ **If at DESC supplier location, via contract**



Project Submission and Review



- ☐ **DESC data call in October for next FY execution**
 - ❖ Due to DESC by 1 Feb
- ☐ **Customer develops the project**
 - ❖ Project scope and a cost estimate
 - ❖ Must be true M, R and/or E
 - ❖ DESC's Region Engineer can assist customers
 - ❖ DESC Facilities Personnel can assist customers
- ☐ **Project Review**
 - ❖ Must be for facilities that store and/or distribute DLA-owned capitalized product(s)
- ☐ **DESC "racks and stacks" by priority**
 - ❖ Estimated dollars are already in budget
 - Emergencies considered out of 1 Feb cycle
 - ❖ Return decision to customer in 60 days
- ☐ **What is "maintenance"?**
 - ❖ Recurring and on-going to ensure proper operation of the facility
- ☐ **What is "repair"?**
 - ❖ Fixing a malfunctioning asset or facility
- ☐ **Construction is not authorized**



Project Review and Approval



- ☐ **Actual project prioritized in a database**
 - ❖ 50K point system
 - ❖ Design Start and Completion (DS and DC) and Construction Start and Completion (CS and CC) could fall in separate FYs
 - ❖ Funding is separate
- ☐ **DESC for Maintenance**
 - ❖ Regardless of \$ value
- ☐ **For Repair**
 - ❖ < \$500K - DESC
 - ❖ \$500K to \$5M - HQ DLA
 - ❖ \$5M - \$7.5M - OSD
 - ❖ > \$7.5M - Congress
- ☐ **Once approved**
 - ❖ DESC MIPRs funds to customer
 - ❖ Contracting is done by
 - AFCEA (USAF)
 - Army Corps of Engineers (Army)
 - NAVFAC (Navy)
 - ❖ Customer manages the project (PM, QA, etc)
- ☐ **Customer advises DESC of project completion**
 - ❖ Submits financial close out report



MR&E Money Basics



- ❑ **MR&E is not “free” money**
 - ❖ Budgeted and recouped in standard price of product
 - ❖ MR&E is estimated based on historical projects that have been executed
 - ❖ Petroleum (Jet Fuel/JP8) would be the model the OSD Comptroller would require
 - ❖ OSD Comptroller likely to request a budget (\$\$) transfer via PBD
- ❑ **DWCF - part of the Defense-Wide WCF**
 - ❖ A revolving fund - goal is to break even in the long run
 - ❖ DESC receives no appropriated funding
 - ❖ Standard price must recoup all costs to include MR&E
 - Calculated on a break even basis
 - Will never reflect market price of current actual costs
 - ❖ Includes
 - Product Price
 - Transportation/Distribution services
 - Blending
 - Storage
 - Gains and losses
 - Missile Fuels operating costs
 - ❖ MR&E not included
- ❑ **DESC customers (w/CSPs) currently budget, fund, and manage site-specific MR&E costs**
- ❑ **Suppliers include in contract price**



Exceptions



- ❑ **DESC provides some limited recurring and on-going site-specific MR&E-type funding**
- ❑ **Cathodic protection and pipeline M&R for GN2 at VAFB**
 - ❖ **DESC performs contracting function and funds the contract**
 - ❖ **Beneficial only to VAFB customers**
 - ❖ **No other DESC customers benefit, so no other DESC customer pays**
 - ❖ **Recouped from VAFB customers in a unique VAFB GN2 standard price**
 - ❖ **However, under current MR&E JP8 model, this cost would be recouped from all GN2 customers**



The Greater Good Requirement



❑ JP8

- ❖ DFSPs hold product for worldwide distribution
- ❖ Impossible to track specific MR&E costs to specific customer
- ❖ All customers benefit from strategically-placed inventories
- ❖ 1.1 Billion gallons in sales causes MR&E to be insignificant in standard price (\$.0002 per gallon in FY02)

❑ Missile Fuels

- ❖ Smaller customer base and lower volume of sales
- ❖ Significant impact to standard prices
 - Example
 - ✓ Hydrazine = \$5M MR&E = \$23 per pound added to standard price
 - = \$2M MR&E = \$9.30 per pound added to standard price
- ❖ Missile Fuels customers are often “retail” operations where the CSP primarily supports only that customer or limited number
- ❖ Non-CSP customers would likely consider MR&E as “unfair”
- ❖ Augmentation of budget issue?
- ❖ Multiple product issue - which product do you apply the expense to?



Authority



- ❑ **MR&E is not mandated for Missile Fuels by DoDM 4140.25**
 - ❖ **Inadvertent rewrite of 4140.25**
- ❑ **Need OSD authority to budget**
 - ❖ **MR&E would probably apply to DoD locations only**
 - ❖ **Maybe good case for FL Space Port - may take legislation since NASA's real property**
 - ❖ **For sure, not applicable to commercial customers**
- ❑ **Not sure what OSD will say**
 - ❖ **Will have concerns over “non-mandatory” nature of Missile Fuels Program to non-DoD customers**
 - ❖ **Will OSD be left holding the \$ obligation without the customers to recoup it from?**



Hypergols and MR&E



- ❑ **N204 currently fits “the greater good” model**
 - ❖ **Concerns over N204 suppliers’ financial health**
 - **DESC currently storing approx 1 Million pounds at VAFB for all of DESC’s customers**
 - **Mission would have failed without USAF/VAFB support in Spring of 2002**
 - **VAFB is storing and distributing, so there’s wear and tear on the facility**
 - ❖ **But, Miss Chem OK financially now**
- ❑ **Do we want dual storage capability?**
 - ❖ **At supplier’s facility and Government location?**
 - ❖ **Safety and Security**
 - ❖ **Creates “industrial base of two” for storage**
 - ❖ **Government flexibility**
- ❑ **But, adds cost to the customer**
 - ❖ **Is cost = benefits?**
 - ❖ **DESC currently considering both, as MR&E for hypergols makes sense**



Way Ahead



- ☐ **Customer feedback is critical**
 - ❖ **Value added or no value added?**
 - ❖ **Maybe site-specific standard price?**
 - **Will require mandatory participation for 100% recoupment of expended funds**
- ☐ **Yes to hypergols (no other source but DESC)**
 - ❖ **Submit the issue through Comptroller chain of command to OSD**
- ☐ **Will all customers pay the price of a project that almost all or some don't benefit from - you tell us?**



DESC Missile Fuels Customer POCs



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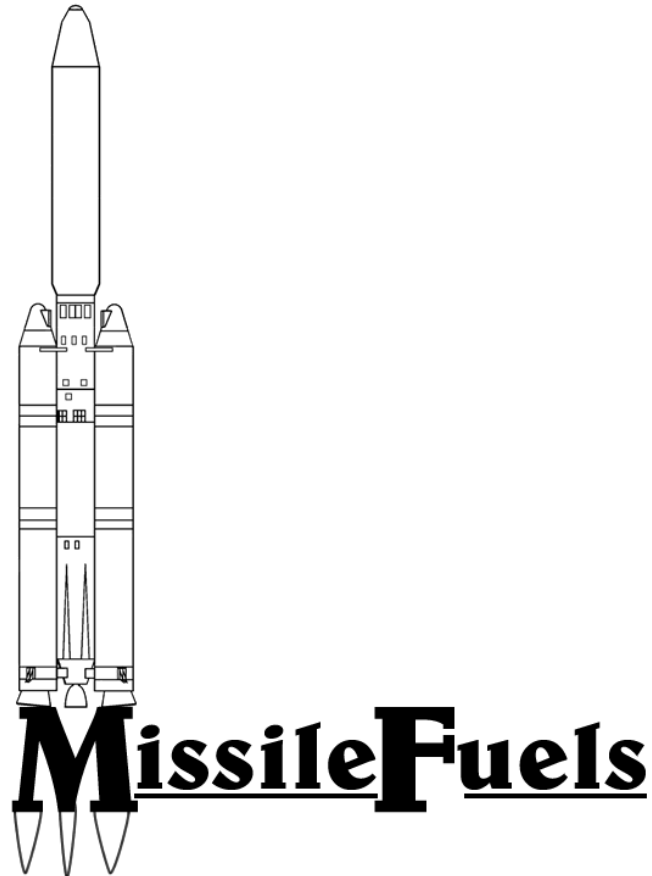
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Dinitrogen Tetroxide (N_2O_4) Support

**Presented at DESC's Worldwide Energy Conference
September 29, 2004**

**Sharon Murphy
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Unit
Defense Energy Support Center**



Dinitrogen Tetroxide (N₂O₄)



- ☐ **Application: An oxidizer used with Hydrazine on space and various satellite programs**
- ☐ **Various grades**
- ☐ **MON 1**
- ☐ **MON 3**
- ☐ **MON 10**
- ☐ **MON 15**
- ☐ **MON 25**



Delta II

Delta III



Titan II

Titan IV



Space Shuttle

N_2O_4



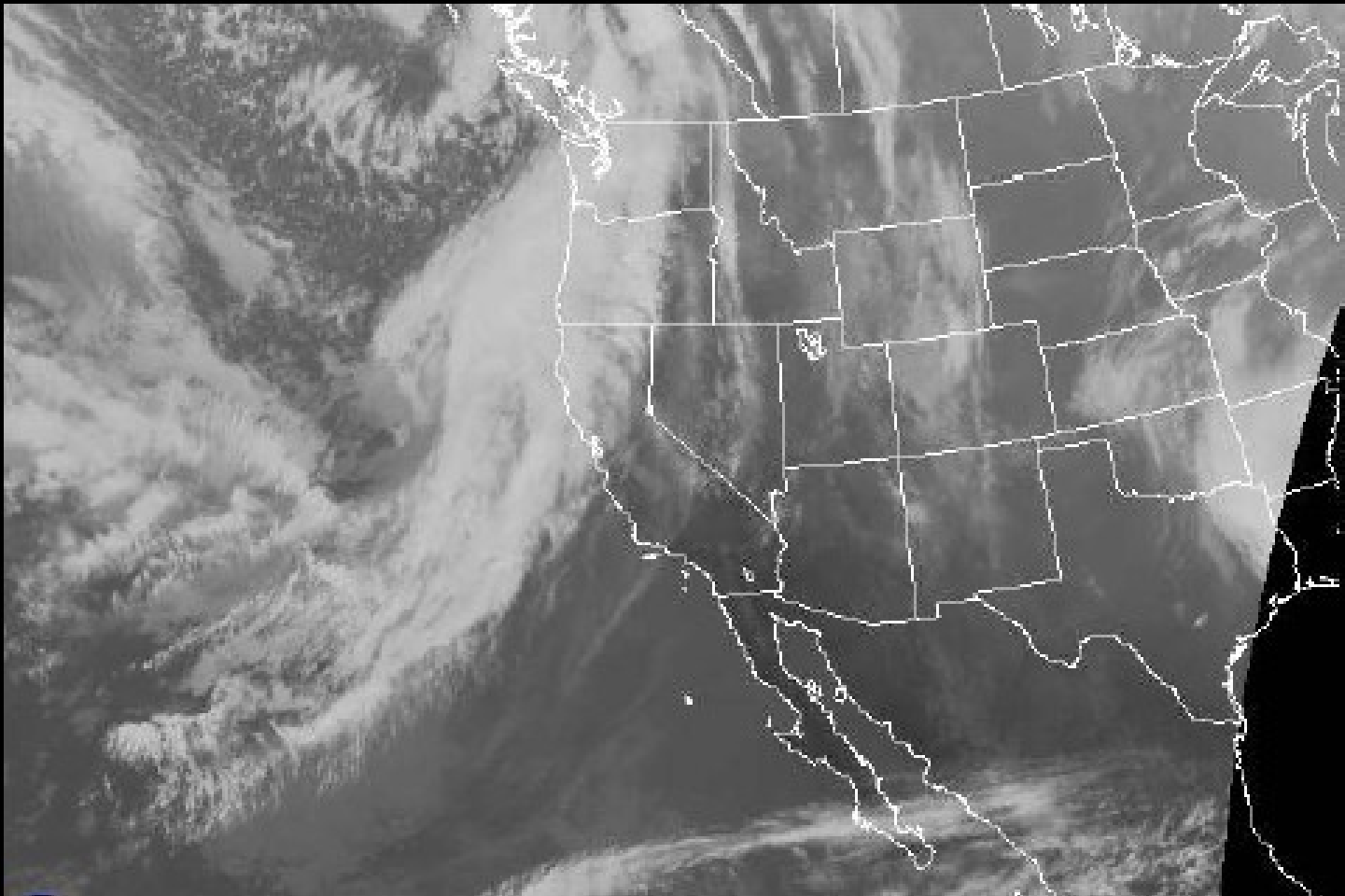
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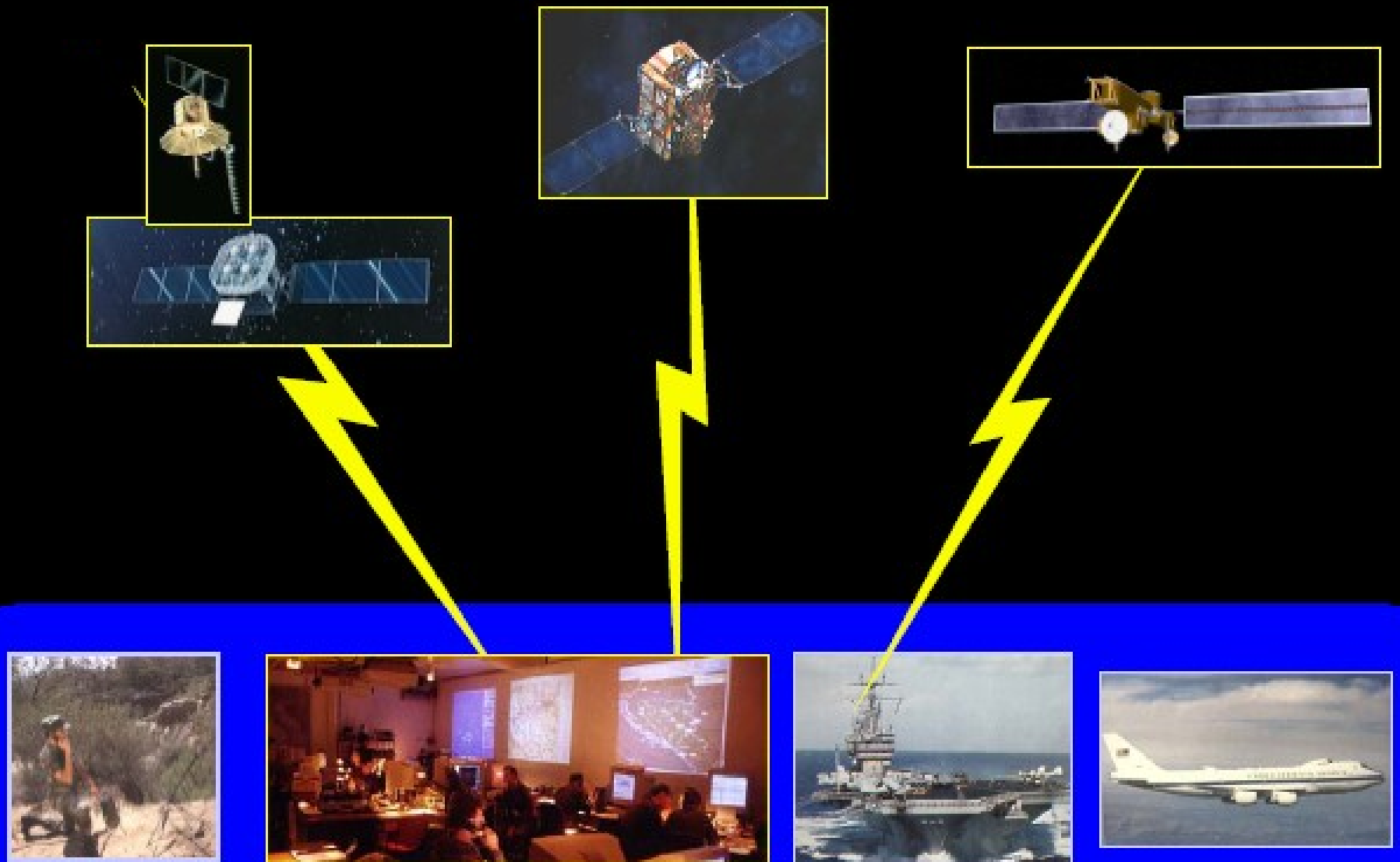
Satellite Imagery



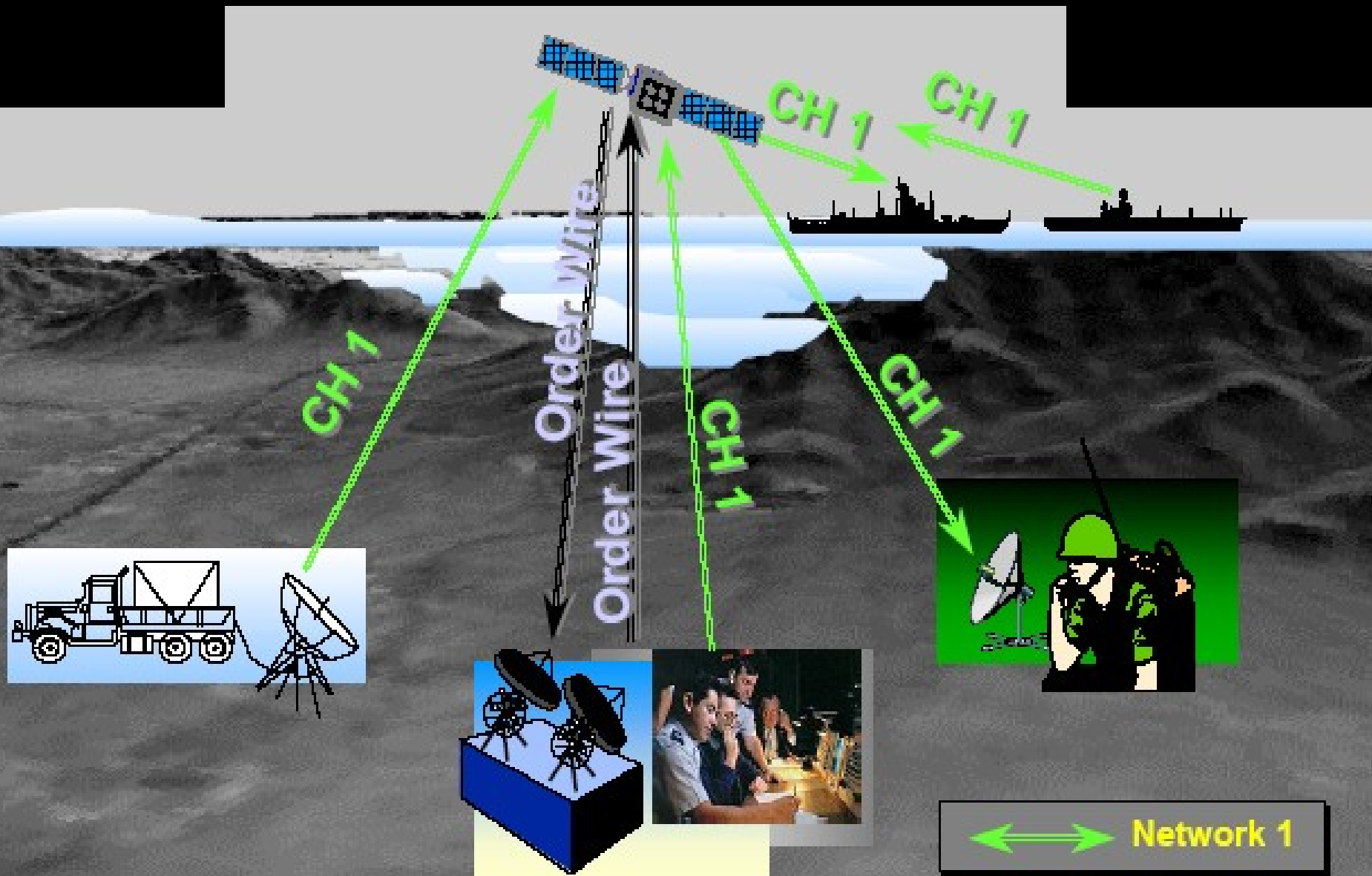
Weather Forecasting & Imagery



Satellite Communication



Satellite Communication



Camouflage Detection

Panchromatic



True Color



Near IR



Short-wave IR





Current N₂O₄ Supplier



☐ Contract awarded on 16 Aug 02 to Mississippi Chemicals

- ❖ A leader in the Chemical Production Industry
- ❖ Top Notch Nitric Acid facility in Yazoo City, MS
- ❖ Fertilizer industry “connection” but not problematic

☐ Awarded five year requirements-type contract in Aug 02

- ❖ Expires Aug 2007

☐ Firm fixed price

☐ Included payment for N₂O₄ plant retrofit



Miss Chem Contract Requirements



❑ All N₂O₄ Products

- ❖ NTO, MON-1, MON-3, MON-10, MON 15, MON-25
- ❖ Multiple Product Delivery Modes - FOB Origin
 - Railcar
 - Cylinders
 - Trailer
 - GPTU

❑ Multiple Services

- ❖ Technical Escort Team
 - Rail
 - Highway
- ❖ Emergency Response
- ❖ Cylinder M&R
- ❖ Rail car maintenance
- ❖ Lab analysis
- ❖ Product transfers



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Mobile Command Post



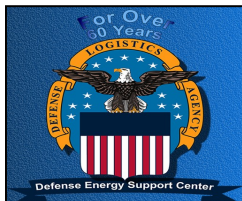
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HIGHWAY

EMERGENCY RESPONSE PLAN



Transportation of
DINITROGEN TETROXIDE
12 MAY 2004

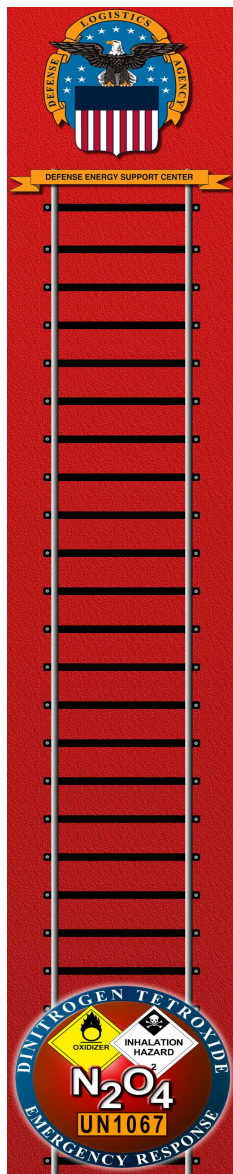


Prepared By:
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RAIL EMERGENCY RESPONSE PLAN



Transportation of
DINITROGEN TETROXIDE

*Prepared By:
Defense Energy Support Center
Missile Fuels Commodity Business Unit
Lackland Air Force Base, Texas*





Current Miss Chem Status



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- ☐ **Nov 02 - Debt Facility renewed by major secured creditor**
- ☐ **Miss Chem declared protection under Chapter 11 Bankruptcy Rules in May 2003**
 - ❖ **True reorganization - not liquidation**
 - ❖ **Creditor support in place**
 - ❖ **Assumption of Executory Contract Motion granted by the Judge**
- ☐ **Reorganization plan filed 03 May 2004**
- ☐ **Sale of Miss Chem to Terra Industries announced in Aug 2004**
 - ☐ **Terra has \$1.4B in assets**
 - ☐ **Yazoo City plant not at risk**



Risk Mitigation Game Plan



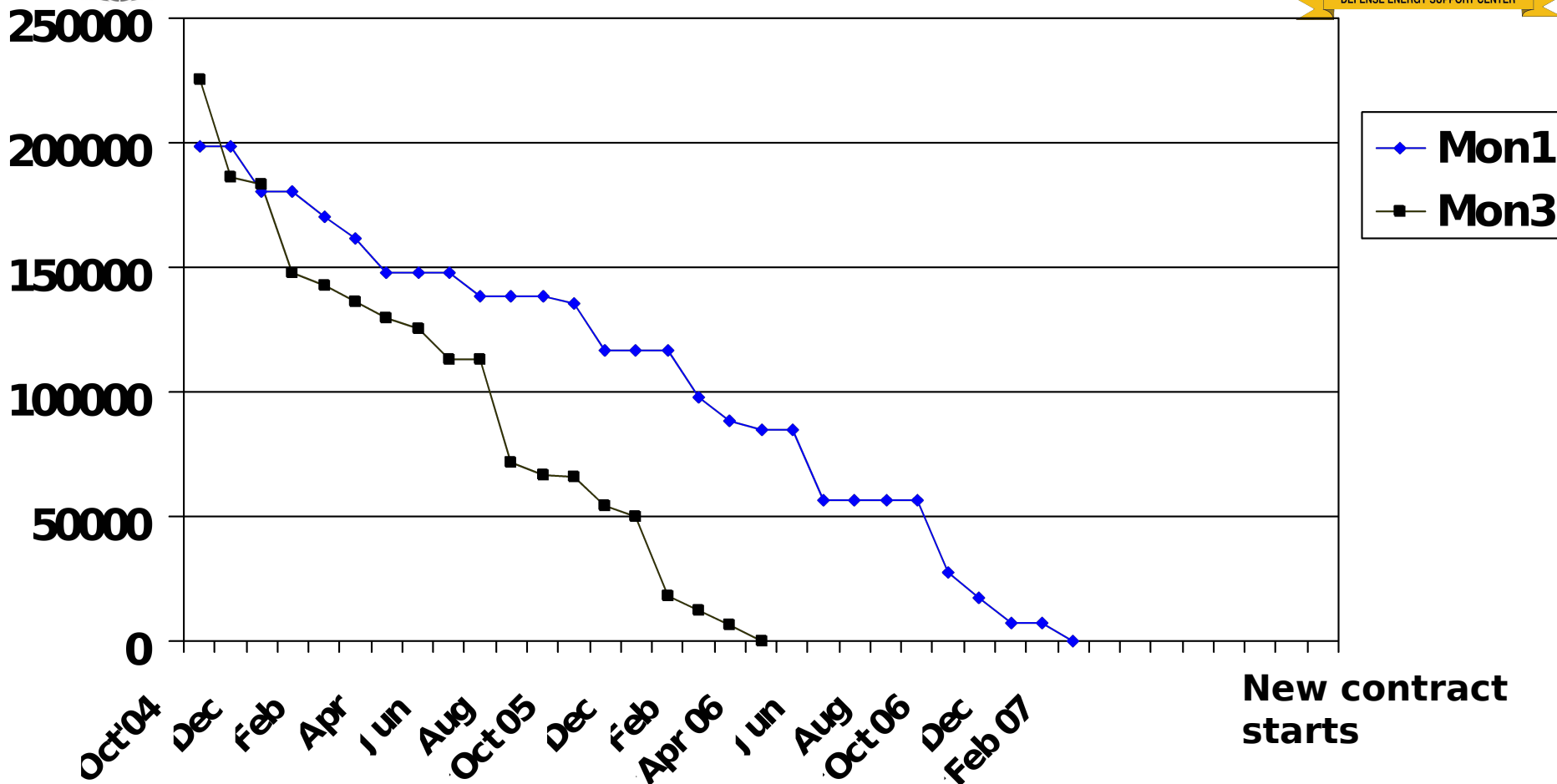
- ☐ Assumes NO 40th Titan Launch
- ☐ DESC sent Miss Chem into immediate production – Mon 1 and Mon 3
 - ❖ Stored at VAFB
- ☐ Immediately produced and stored the majority of requirements
 - ❖ Due to current financial status, no need for further stock piling



N204 Inventory Depletion



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Next Big Procurement: N204



- ☐ **Will be conducted similar to hydrazine**
 - ❖ **Competitive**
 - ❖ **Trade off Source Selection Process**
 - ❖ **In-depth Tech Eval**
 - ❖ **Have 20 year authority already**
- ☐ **Considering carrier impact**
- ☐ **Gathering requirements now**
 - ❖ **RFP → summer 2005**
 - ❖ **Award → summer 2006**
 - ❖ **One year for contractor startup → Aug 2007**



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